

中国地衣新记录属——包被鳞核衣属

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摘要: 报道中国地衣 - 新记录属——包被鳞核衣属。该属主要特征: 地衣体小鳞片状, 子囊器为子囊壳, 着生于地衣体小鳞片之间, 由一特化的外壁所包裹, 子囊孢子较大。

关键词: 地衣; 新记录属; 瓶口衣目

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Involucropyrenium (Verrucariaceae), a Lichen Genus New to China

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Abstract: The genus *Involucropyrenium* is reported from China for the first time. It is characterized by a minutely squamulose thallus, perithecia situated between the squamules, an involucrellum enveloping the whole ascomata, and comparatively large ascospores.

Key words: Lichen; New record; Verrucariales

Extensive studies on the lichen family Verrucariaceae have greatly clarified the taxonomy of this group (Breuss, 1985, 1990, 1996; Heidmarsson, 1998; Thomson, 1987; McCarthy, 1995), notably through improved delimitations of existing genera and the creation of new taxa, such as the genus *Involucropyrenium* (Breuss, 1996). This genus was proposed to accommodate 4 species previously included in *Catapyrenium*, and hitherto contains 8 species (Breuss, 1996; Breuss and Türk, 2004). It is widespread in temperate regions (Kirk *et al.*, 2001), but has not been reported from China before.

During our recent fieldwork in Qilian Mountains, Northwestern China, collections with a minutely squamulose thallus and globose, black perithecia were subsequently identified as *Involucropyrenium waltheri*. We present here the species and the occurrence of *Involucropyrenium* from China for the first time.

Materials and Methods

Specimens examined in the present study are deposited in

Lichen Section of Botanical Herbarium, Shandong Normal University (SDNU).

For the study of morphology and anatomy, a dissecting microscope (Motic K-400L) and a light microscope (JNOEC XS-213) were used. Chemical substances in the lichen were examined by thin layer chromatography (TLC) (Culberson, 1972).

Results and Discussions

Involucropyrenium Breuss, *Annln naturh. Mus. Wien, Ser. B, Bot. Zool.* 98 (Suppl.): 37 (1996) Type species: *Involucropyrenium waltheri* (Kremp.) Breuss

Thallus minutely squamulose and crust-like; closely adnate, attached by a tufts of rhizohyphae or rhizines; isidia and soredia absent; upper surface brownish or greenish gray to brown, dull; ascomata perithecial, between the squamules, globose, with clear involucrellum; periphyses present; asci clavate, 8-spored; ascospores simple, hyaline, thin-walled, smooth, biserially arranged; pycnidea absent.

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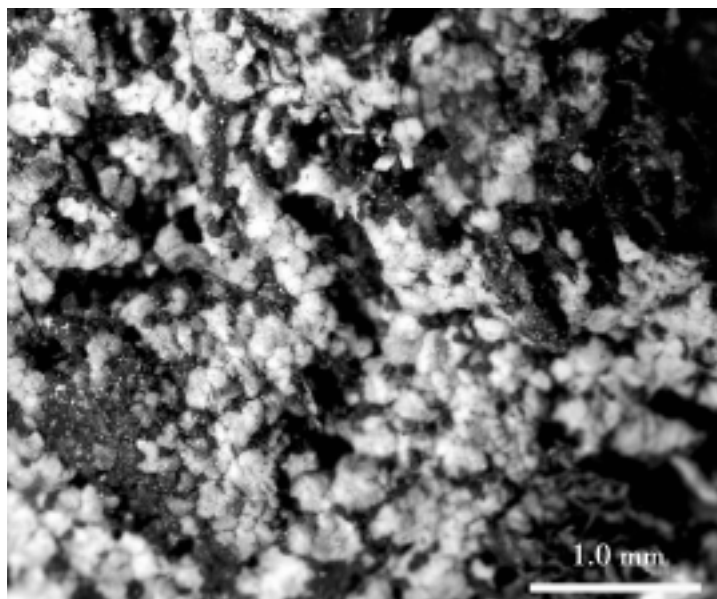


Fig. 1 Thallus of *Involucropyrenium waltheri* showing the minutely squamulose and crust-like thallus .
Scale = 1 mm, Sun Zhong-Shuai, 20071492-2

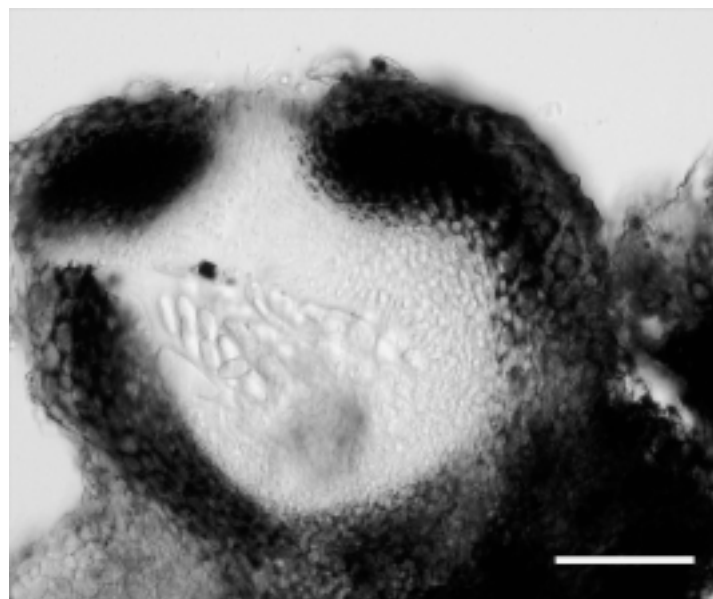


Fig. 2 Perithecia of *Involucropyrenium waltheri* showing the clear, entire involucrellum . Scale = 50 µm,
Sun Zhong-Shuai, 20071492-2

Habitat: on soil, humus or rocks .

Involucropyrenium waltheri (Kremp.) Breuss, Annln . naturh. Mus . Wien, Ser . B, Bot . Zool . 98 (Suppl .): 38 (1996) . (Figs . 1 & 2)

Catapyrenium waltheri (Krempelh.) K rber, Syst . Lich . Germ . 325 . 1855

Verrucaria waltheri Krempelh, Flora 38: 69 (1855) .

Thallus minutely squamulose; squamules 0.5 - 1.3 mm wide, firmly adpressed and confluent to form a continuous, crust-like cover over the substrate; upper surface matt, fawn, not pruinose; rhizoidal hyphae black, forming a dense, dark hypothallus . Perithecia black, spherical, semi-emergent, situated between the squamules, often aggregated to groups or lines; exciple dark brown to black; involucrellum black, entire, 25 - 30 µm thick; periphysis simple, 30 - 40 µm long; asci clavate, thin-walled, 8-spored; ascospores 18 - 23 × 7 - 10 µm, ovoid to clavate, colorless, biseriate .

Chemistry: no lichen substances detected by TLC .

Habitat: on soil and humus .

Specimens examined: China . Qinghai Province: Menyuan county, Mt . Lenglongling, alt . 3 600 m . on soil . August 7th 2007 . Zhao Zun-tian, 20070956; Qilian County, Mt . Niuxinshan, alt . 3 100 m . August 11th 2007 . Sun Zhong-shuai, 20071492 - 2 .

Comments: *Involucropyrenium* comprises 8 species (Breuss and Türk, 2004) . *Involucropyrenium waltheri* can be readily distinguished from *I. nuriense*, *I. tremniacense* and *I. squamulosum* by having entire involucrellum, while involucrellum of the latter three is not entire . The rest 4 species (*I. llimonae*, *I. sbarbaronis*, *I. terrigenum* and *I. pusillum*) also have an entire *Involucrellum*, but their rhizines are colorless or brownish .

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